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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,300	09/08/2003	Eric Stephen Mattis	030296	2134
23596 7590 04/09/2008 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121				
EXAMINER				
NGUYEN, TRAN N				
ART UNIT		PAPER NUMBER		
2834				
NOTIFICATION DATE		DELIVERY MODE		
04/09/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/658,300

**Applicant(s)**

MATTIS ET AL.

**Examiner**

Tran Nguyen

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1.5 and 11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1.5 and 11 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SF-08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a) because they fail to show *the electrical conductor comprises a center conductor and an outer conductor, and the outer conductor is fixed to said shaft*, as recite in claim 1. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The specification is objected to as failing to provide proper antecedent basis for subject claimed matter as “outer conductor”. According to the specification, para. [0020], the conductor 112 may comprise a flexible, rigid, or semi-rigid coaxial cable. Such a coaxial cable typically comprises a non-conductive sleeve surrounding a conductor, dielectric, and shield, wherein the non-conductive sleeve is fixed to the shaft. In an embodiment where a non-conducting sleeve is

not used, such as the case of some rigid or semi-rigid coaxial cables, the shield may be connected directly to the shaft from within.

The specification, para. [0020], describes that the conductor 112 may have a shield connected to the shaft, but **the specification not only fails to provide proper antecedent basis for the claimed subject matter "outer conductor" but also fails to disclose whether the shield is a conductor or made of conductive material or not.**

### ***Response to Arguments***

Applicant's arguments filed 2/29/08 have been fully considered but they are not persuasive.

The applicant argues that respectively Parker and Anderson as following:

As amended, claim 1 recites "*wherein the electrical conductor comprises a center conductor and an outer conductor, and the outer conductor is fixed to said shaft.*"

**Parker** et al. does not teach an outer conductor fixed to the shaft, and in fact teaches away from fixing the outer conductor to the shaft by disposing a torque tube 46 between the outer conductor 52 and the shaft 12 as shown in Figure 3.

**Anderson** et al. discloses in column 2, lines 26-30, that "[t]he outer conducting sleeve 25 of the coaxial conductor 24 is spaced sufficiently close to the wall of the motor shaft 14 so that the shaft and the conductor sleeve are capacitively coupled at the frequencies for which the antenna system 10 is employed..." For the conductor and the shaft to be "capacitively coupled" means that there is a gap between them.

In response to these arguments, regarding **Parker** ref, col 4 lines 43+, discloses a center conductor (51) acts as a center conductor of an outer conductor (52), and as shown in Fig 3, the outer conductor (52) is fixed to the hollow shaft (12). The applicant remark about the torque tube (46) being positioned between the shaft (12) and the outer conductor (52) is proper. Nevertheless, Parker's outer conductor (52) is fixed to the hollow shaft (12) is read on the claimed language because the claim is simply written "*the outer conductor is fixed to said shaft*" that is broadly read on Parker's disclosure. Whether the outer conductor being directly fixed

onto the shaft or not is irrelevant because the claimed language is not specifically such feature, but rather broadly recited via the term "*fixed to*".

Similarly, regarding **Anderson** ref discloses that the outer conducting sleeve (25) is spaced sufficiently close to the wall of the motor shaft so that the shaft and the outer conductor are capacitively coupled, i.e., the outer conductor fixed to the shaft, via a ground plane disc (16) mounted on the shaft. The applicant's remark about the outer conductor and the shaft being "capacitively coupled" means that there is a gap therebetween is valid. Nevertheless, because the claim is broadly written that "*the outer conductor is fixed to said shaft*", whether the outer conductor being directly fixed onto the shaft without any gap therebetween or it is fixed to the shaft with a space therebetween is irrelevant because the claimed language is not specifically such feature, but rather broadly recited via the term "*fixed to*".

Regarding **Rainwater** ref, the applicant argument seems to be based on body incorporating the Rainwater structure into the Parker's or Anderson's system. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this instant case, Rainwater teaches an apparatus coupling a rotation drive means and an antenna horn comprising a motive driving device (Fig. 2, #40) being capable of rotation (Col. 2, lines 66 & 67), said motive device being rotatably connected to an antenna horn (Fig. 2, #16) rotatable about a central axis of said motive device. This is the essential teaching of Rainwater that would have been obvious to one skilled in the art at the time the invention was made to modify the disclosed apparatus by incorporating an antenna horn being rotatably connected to the apparatus for rotating about a central axis thereof, as taught by Rainwater. Doing so would provide an antenna system with an antenna horn and the rotating coupling.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claim 1 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Parker et al (US 3,691,562)** in view of **Rainwater (US 4345256)**.

**Parker** discloses an apparatus, for providing electrical coupling, comprising: a motor (13) having a hollow shaft (12) extending there through and rotatably thereby; an electrical conductor located within the hollow shaft (12) (abstract and col. 4 line 43+), and an antenna system connected to the electrical conductor and to the shaft for being rotated by the shaft.

**Parker** substantially discloses the claimed invention, except for the limitations of the antenna horn in the antenna system.

**Rainwater**, however, teaches an apparatus coupling a rotation drive means and an antenna horn comprising a motive driving device (Fig. 2, #40) being capable of rotation (Col. 2, lines 66 & 67), said motive device being rotatably connected to an antenna horn (Fig. 2, #16) rotatable about a central axis of said motive device. Antenna system equipped with an antenna horn is well known in the art because antenna horn is an essential component of an antenna system; also, incorporate the antenna horn to the Parker's electrically coupling and rotatably driving apparatus would be an obvious industrial implementations for the motor since electric motors are well known for electrically coupling and rotating various types of antenna devices.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the disclosed apparatus by incorporating an antenna horn being rotatably connected to the apparatus for rotating about a central axis thereof, as taught by Rainwater. Doing so would provide an antenna system with an antenna horn as an essential component thereof, and such antenna horn rotatably coupled to an electrically coupling and rotatably

driving motor would be an obvious industrial implementations of the motor, since electric motor is well known for electrically coupling and rotating various types of antenna devices.

2. **Claim 1, 5 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Anderson et al (US 4,260,992)** in view of **Rainwater (US 4345256)**.

**Anderson** discloses an apparatus, for providing electrical coupling, comprising: a motor (12) having a hollow shaft (14) extending there through and rotatably thereby; an electrical conductor located within the hollow shaft (14), and an antenna system connected to the electrical conductor and to the shaft for being rotated by the shaft; particularly, **Anderson** discloses the hollow shaft (14) is made of electrically conductive material, which obviously function as part of the electrical conductor thereof, and the electrical conductor (24) having outer conductor (25) and center conductor (34), wherein a dielectric would be essentially part of an electrical conductor cable. **Anderson** substantially discloses the claimed invention, except for the limitations of the antenna horn in the antenna system.

**Rainwater**, however, teaches an apparatus coupling a rotation drive means and an antenna horn comprising a motive driving device (Fig. 2, #40) being capable of rotation (Col. 2, lines 66 & 67), said motive device being rotatably connected to an antenna horn (Fig. 2, #16) rotatable about a central axis of said motive device. Antenna system equipped with an antenna horn is well known in the art because antenna horn is an essential component thereof; also, incorporate the antenna horn to the **Anderson's** electrically coupling and rotatably driving apparatus would be an obvious industrial implementations for the apparatus since electric motors are well known for electrically coupling and rotating various types of antenna devices.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the disclosed apparatus by incorporating an antenna horn being rotatably connected to the apparatus for rotating about a central axis thereof, as taught by **Rainwater**. Doing so would provide an antenna system with an antenna horn as an essential component thereof, and such antenna horn rotatably coupled to an electrically coupling and rotatably

driving motor would be an obvious industrial implementations of the motor, since electric motor is well known for electrically coupling and rotating various types of antenna devices.

Furthermore, Anderson discloses the hollow shaft (14) is made of electrically conductive material, which obviously function as part of the electrical conductor thereof, and the electrical conductor (24) having outer conductor (25) wherein the hollow shaft and the outer conductor (25) being placed relative to one another so that the hollow shaft (14) and the outer conductor (25) are capacitively coupled at the frequencies for which the antenna system is employed. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the disclosed apparatus by fixing the outer conductor to the shaft. Doing so would ensure the electrical connection therebetween; also, it has been held that "the use of a one piece construction...would be merely a matter of obvious engineering choice." (In re Larson, 340 F.2d 965,968, 144 USPQ 347, 349 (CCPA 1965)).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose email is [Tran.Nguyen@USPTO.Gov](mailto:Tran.Nguyen@USPTO.Gov) or



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telephone number is 571-272-2030. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. **(Note: Use this Central Fax number 571-273-8300 for all official response.)**

Do **not** use the Examiner's RightFax number without informing the Examiner first because, according to the USPTO policy, any document being sent via RightFax is treated as unofficial response and will not be officially dated until it is routed to the Central Fax.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tran Nguyen/

Primary Examiner, Art Unit 2834